



Case Reports

Metastatic large cell lung cancer presenting with numb chin syndrome

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The numb chin syndrome is an uncommon occurrence with cancer and consists of numbness in the area of distribution of the mental nerve. Most cases of this syndrome occur in the presence of underlying breast cancer or lymphoma with survival measured in months once this syndrome is manifest. Reported below is the case of a man with metastatic large cell lung cancer whose presenting complaint was chin and lip numbness.

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Introduction

The numb chin syndrome (NCS), also known as mental neuropathy, is characterized by numbness in the area of the face supplied by the mental nerve, and is an uncommon manifestation of metastatic cancer (1,2). The most common aetiology of NCS is compression of the inferior alveolar or mental nerves by metastatic breast cancer or lymphoma (3,4). Patients usually complain of numbness over the lower chin, lip and submental areas (1,2,5). Numb chin syndrome may also signify direct invasion of the affected nerves with leukaemic cells or by neoplastic involvement of the meninges, although metastases to the mandible are the most common cause of syndrome (3,6). Most cases of NCS occur in the setting of known cancer, but may occasionally be the initial symptom of malignancy (2,4). As a result, clinicians need to be aware of a potentially serious condition when a patient complains of chin, lip or lower facial numbness. The present case report describes a patient with left-sided chin numbness and a lytic

lesion of the mandible, whose evaluation led to the diagnosis of metastatic large cell lung cancer.

Case Report

A 62-year-old male with a history of a cadaveric renal transplant and scleroderma presented with several days of numbness over the left lip, chin and submental area. He denied trauma, recent dental work, fevers or toothache. Physical examination revealed anaesthesia over the left chin, lip and submental areas. There was no motor deficit and the rest of the cranial nerves were intact. No oral lesions or lymphadenopathy were found. The rest of the physical examination was remarkable for sclerodactyly, telangiectasias of the skin and right-sided rhonchi on pulmonary examination. A chest radiograph revealed a right paratracheal mass. Bronchoscopy showed an endobronchial lesion which was biopsied. A panoramic X-ray (Panorex) revealed a lytic lesion of the left mandible in the area of the mental foramen (Plate 1). The transbronchial biopsy returned as poorly differentiated large cell carcinoma. Bone scan and computerized tomography confirmed widely metastatic disease. The mandibular lesion was felt to be consistent with metastatic disease and was not biopsied due

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PLATE 1. Panoramic X-ray (Panorex) showing a lytic lesion of the inferior body of the left mandible. The lesion is in the area of the mental foramen, where the inferior alveolar nerve exits as the mental nerve.

to the wishes of the patient. The patient was treated palliatively with radiotherapy and pain medication, and discharged to his home.

Discussion

Numb chin syndrome is usually seen in the setting of previously known disseminated cancer, but may occur secondary to trauma, diabetes, amyloidosis and various toxins (1,3,8). The mean time from the initial diagnosis of cancer to the development of NCS is 4 yr, and once NCS develops, mean survival is 5 months (3). Breast cancer and lymphoma account for 78% of all cases of NCS in patients with malignancy (3). Other malignancies associated with the NCS include carcinomas of the lung, thyroid and kidney, and various leukaemias (1,5,6).

Most cases of NCS occur secondary to compression of the mental or inferior alveolar nerves by jaw metastases, or by lesions affecting the mandibular nerve at the base of the skull (3,4). In one review, NCS was due to mandibular bone metastases in 50% of cases (3). The mandibular division of the trigeminal nerve exits the base of the skull at the foramen ovale (1,7). After exiting, the nerve divides into an anterior trunk which supplies motor innervation to the muscles of mastication, and a posterior sensory division which continues as the inferior alveolar nerve in the mandible (1,7). The inferior alveolar nerve supplies sensation to the gingiva, lower lip and chin (1). This nerve finally exits the mandible through the mental foramen as the mental nerve, and supplies sensory innervation to the skin of

the chin, mucous membranes of the lower lip, and the gingiva of the mandibular incisors (7). The syndrome is purely sensory since the affected nerves carry only sensory fibres (1). Since the inferior alveolar nerve travels mainly within the mandible, mental neuropathy can result from any process that involves bone, or damages the nerve by direct infiltration of the nerve or nerve sheath (1,6).

The diagnosis of NCS is mainly clinical; however, computerized tomography of the head, plain films and, occasionally, magnetic resonance imaging may aid in the diagnosis (1,3).

Treatment for NCS is usually palliative as once the syndrome develops, metastatic disease is usually widespread (3). Although this patient's jaw lesion was not biopsied, it was most likely due to lung metastases given its lytic appearance and other imaging procedures showing widespread disease. To the author's knowledge, this is the first case of NCS as a presenting feature of metastatic large cell carcinoma of the lung. Physicians should consider metastatic cancer in any patient who presents with chin or jaw numbness and has no other obvious cause for their complaint.

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